

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)	Group Art Unit: 1637
Livak et al.)	Examiner: J. Riley
Serial No.: 09/627,753	Certificate of Mailing I hereby certify that this correspondence is being
Filed: July 28, 2000)	deposited with the United States Postal Service as first class mail in an envelope address to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 29, 2004
For: Hybridization Assay Using Self- Quenching Fluorescence Probe	Desi Inocencio Name of Depositing Party Phi Thounio
Confirmation No. 2446)	Signature of Depositing Party

RESPONSE UNDER 37 CFR 1.111

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313

Sir:

With reference to the Office action mailed Sept. 29, 2003, reconsideration of the application is respectfully requested. A Petition for 3-Month Extension of Time is enclosed herewith, extending the deadline for response to March 29, 2004.

Claims 39-40 stand newly rejected as allegedly being obvious over Bagwell et al. (Nucl. Acids. Res. 22:2424-2425, 1994) in view of Urdea et al. (US 4,775,619). The rejection is respectfully traversed.

The PTO has the burden of establishing *prima facie* obviousness, and can meet this burden "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references" In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Claim 39 recites a method for detecting nucleic acid target sequences wherein a sample is contacted with an oligonucleotide probe attached to a solid support under conditions favorable for hybridization. The oligonucleotide probe includes a fluorescent reporter molecule and a quencher molecule capable of quenching the fluorescence of said reporter molecule. The probe exists in at least one single-stranded conformation when unhybridized to target where the

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quencher molecule quenches the fluorescence of the reporter molecule, and at least one

conformation when hybridized to the target where the fluorescence intensity of the reporter

molecule is unquenched, such that the ratio of the fluorescence intensities of the reporter

molecule to the quencher molecule when the probe is hybridized to the target is greater than the

ratio when the probe is single-stranded. The fluorescence of the reporter molecule is then

monitored, wherein an increase in the fluorescence intensity of the reporter molecule indicates

the presence of the target sequence.

Bagwell et al. teaches a "Unifluor" probe two-hairpin oligonucleotide that changes

conformation when bound to a complementary sequence, resulting in an increase in fluorescence.

Urdea is cited as teaching detection of polynucleotides employing a solid support.

However, there is no suggestion in the cited references, whether express or implied, of

combining the features of these references to arrive at the presently claimed invention. Only in

hindsight could the present claims have been deemed to be obvious, as there appears to be no

teaching or suggestion of the present invention, wherein a probe as recited in claims 39-40 is

contacted with a nucleic acid sample and the reporter is monitored, wherein an increase in the

fluorescence intensity of the reporter molecule indicates the presence of the target sequence. In

the absence of motivation in the cited art to combine the teachings thereof to arrive at the present

invention, the claims cannot be considered obvious. Withdrawal of the rejection is therefore

respectfully requested.

Fee Authorization

Should any fee be necessary for timely entry of this paper, please charge **Deposit**

Account No. 01-2213 (Order No. 4264C5). Any deficiency or overpayment should be charged

or credited to this deposit account.

Respectfully submitted,

Date:

March 29, 2004

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